

Memo

To: Board of Managers
From: Michael Younes, Director of Municipal Operations *[Signature]*
CC: Shana Davis-Cook, Village Manager
Date: 2/5/13
Re: Landscape Maintenance Contract – Chemical Use Program

During the Board's discussion at your January regular meeting regarding the elimination of right-of-way mowing throughout the Village, a resident voiced concerns regarding the Village's landscape maintenance – chemical use program. In response, the Board asked staff to provide additional information regarding this program at your next meeting. Below please find a summary of the Village contractor's use of chemicals as part of our landscape maintenance contract.

Background

The Village's landscape maintenance contract states that the contractor is responsible for treating/fertilizing Village Parks and Greenspaces (including the Village Hall grounds) with pre- and post-emergent weed controls each twice (2) during the growing season. There is no treating/fertilization of rights-of-way.

Pre-emergents are applied to prevent the growth of crabgrass and other weedy annual grasses, while post-emergents are applied to control any existing weeds that do grow.

The Village's contract states that:

- i. The application of all pesticides shall adhere to all federal, state and local laws and regulations. Pesticides shall be applied according to the methods, rates and precautions described on the manufacturer's label.
- ii. Spraying shall not be performed when the vegetation is wet, when it appears that rain is imminent within six (6) hours, or when the wind is blowing enough to scatter paper trash, or when human activity is not at a minimum.

- iii. Any person applying pesticides on site must have a valid Maryland Commercial Pesticide Applicator Certificate/License appropriate for the product being applied.
- iv. Individual pesticide applicators are solely responsible for properly storing and securing the pesticides they apply. Material safety data sheets (MSDS) and product label information shall be submitted to the Village prior to pesticide applications.

Chemicals/Fertilizers Used

- *Pre-Emergent:*
 - Chemical Name: Lesco Stonewall Pre-emergence Herbicide plus Fertilizer
 - Application Form: Applied in granular form by a material spreader.
 - When Last Applied: April 7 and April 13, 2012.
 - A copy of the material safety data sheet is attached.
- *Post-Emergent:*
 - Chemical Name: Lesco Three-Way Selective Herbicide
 - Application Form: Applied in liquid form by a chemical sprayer.
 - When Last Applied: June 5, 2012 and October 18, 2012.
 - A copy of the material safety data sheet is attached.
- *Aeration and Seeding:*
 - Grass Seed type: Tall Fescue
 - Application Form: Applied in solid form by a material sprayer.
 - When Last Applied: October 18, 2012.

Board Action

This memorandum has been provided as an informational item. At this time there is no action required unless the Board feels that the Village should eliminate or modify the Landscape Maintenance Contract – Chemical Use Program.

Attachments

- (1) Material Safety Data Sheet for Pre-emergent treatments
- (2) Material Safety Data Sheet for Post-emergent treatments



MATERIAL SAFETY DATA SHEET #4309

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1301 East 9th Street, Suite 1300, Cleveland, OH 44114-1849
EMERGENCY PHONE: LESCO: (800) 321-5325
CHEMTREC: (800) 424-9300

DATE ISSUED: 12/8/09
SUPERSEDES: 11/24/09

I. PRODUCT IDENTIFICATION

PRODUCT NAME: LESCO Stonewall® Pre-emergence Herbicide plus Fertilizer; LESCO Stonewall® (0.20%, 0.29%, 0.43%, 0.68%, 2.0%) Plus Fertilizer; LESCO Barricade® (0.20%, 0.29%, 0.43%, 0.68%, 2.0%) Plus Fertilizer; LESCO Barricade® 0.28% Plus Fertilizer; LESCO Barricade® 0.38% Plus Fertilizer

Chemical Family: Dinitroaniline Herbicide

Chemical Name/Synonyms: N3,N3-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine

II. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	%(by/wt.)	CAS #	PEL/TLV
Prodiamine	0.20% – 2.0%	29091-21-2	Not Established

Formulated with one or more of the following ingredients. Check specific product label.

Urea	0 – 98	57-13-6	10 mg/M ³ (dust) 5 mg/M ³ (resp)
Potassium Chloride	0 – 95	7447-40-7	10 mg/M ³
Potassium Sulfate	0 – 95	7778-80-5	10 mg/M ³
Monoammonium Phosphate	0 – 95	7722-76-1	15 mg/M ³ (dust) 5 mg/M ³ TLV
Diammonium Phosphate	0 – 95	7783-28-0	15 mg/M ³ (dust) 5 mg/M ³ (resp)
Ammonium Sulfate	0 – 95	7783-20-2	15 mg/M ³ (dust)
Calcium Carbonate	0 – 95	1317-65-3	15 mg/M ³ (dust) 5 mg/M ³ (resp)
Sulfur	0 – 20	7704-34-9	5 ppm (SO ₂)
Iron Oxide	0 – 10	1309-37-1	15 mg/M ³ (dust)
Iron Sulfate	0 – 10	7720-78-7	15 mg/M ³ (dust)
Manganese Oxide	0 – 10	1317-35-7	15 mg/M ³ (dust)
Magnesium Sulfate	0 – 10	7487-88-9	15 mg/M ³ (dust)
Urea Formaldehyde	0 – 10	9011-05-6	Not Established
Sulfate of Potash-Magnesia	0 – 10	14977-37-8	Not Established
Magnesium Carbonate	0 – 10	39409-82-0	Not Established
Biosolids	0 – 10	Not Established	Not Established
Kaolin Clay	0 – 10	Not Established	15 mg/M ³ (dust) 5 mg/M ³ (resp)
Sodium Sulfite	0 – <1	Not Established	Not Established

TLV of all chemicals and mixtures is 15 mg/M³; TWA is 10 mg/M³; Respirable dust TLV of 5mg/M³, unless otherwise indicated

III. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Primary Route(s) of Entry: Eyes, Skin, Inhalation, Ingestion

POTENTIAL HEALTH EFFECTS: May cause mild irritation to skin and eyes. Ingestion of large amounts may cause gastrointestinal disorder, nausea, vomiting and/or diarrhea.

EYE: May cause mild irritation

SKIN: Prolonged or frequently repeated skin contact may cause allergic reactions to some individuals.

INHALATION: Dust may be irritating to nose, respiratory tract and throat

INGESTION: Ingestion may result in rapid onset of abdominal pain, nausea, diarrhea, blurred vision, sweating, salivation, muscle twitching, and tremors.

MEDICAL CONDITIONS AGGRAVATED: Pre-existing respiratory, skin, or eye conditions

POTENTIAL ENVIRONMENTAL HAZARDS: This product has low solubility in water. At the limits of solubility, this product is not toxic to fish. However, at concentrations above the level of water solubility, it may be toxic to fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

IV. FIRST AID MEASURES

EYES: Flush with large amounts of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

SKIN: Remove contaminated clothing. Wash area of contact thoroughly with soap and water. Get medical attention if irritation persists.

INHALATION: If symptoms develop, remove person from source of exposure to fresh air. If breathing is difficult, administer oxygen if available. Get medical attention if irritation persists.

INGESTION: Give 1 or 2 glasses of water. Induce vomiting by touching back of throat with finger. Do not give anything by mouth to an unconscious person. Seek medical attention.

NOTES TO MEDICAL DOCTOR: Treat symptomatically

V. FIRE FIGHTING MEASURES

Flash Point (Method Used): Not Applicable

Lower Explosion Limits: Not Applicable

NFPA/HMIS Rating: Health: 2

EXTINGUISHING MEDIA: ☒ Foam

☒ Water Spray

Auto Ignition Temperature: Not Applicable

Upper Explosion Limits: Not Applicable

Fire: 1

Reactivity: 0

☐ Alcohol Foam

☒ Use media suitable for surrounding fire

☒ Dry Chemical

☒ CO₂

EXPLOSION HAZARDS: Dispersion of fine dust in the air may form an explosive mixture.

FIRE FIGHTING PROCEDURES: Wear NIOSH approved positive pressure, self-contained breathing apparatus. Do not breathe fumes. Remove from area of fire at first opportunity. Prevent water runoff from entering drains, sewers or water sources. Fertilizer will become slippery when wet Guard against falls.

HAZARDOUS COMBUSTION PRODUCTS: If heated to decomposition, will give off toxic fumes of ammonia and formaldehyde. Under fire conditions, urea may decompose to cyanuric acid, biuret or ammonia. Thermal decomposition product may also include, but are not limited to, oxides of nitrogen, hydrogen fluoride and carbon monoxide

VI. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: If material is spilled, sweep up, keeping dust to a minimum and store for re-use. Contaminated product and/or environmental media should be recovered and disposed of properly. Avoid breathing the dust.

VII. HANDLING AND STORAGE

GENERAL PROCEDURES: Read product label before handling. Use only as directed on the label. Do not contaminate water, food, or feed by storage or disposal. Store in original container away from other fertilizer, feed, or food stuffs and separated from other pesticides and away from drains, sewers, and water sources. Do not contaminate water source from disposal of equipment washwater. Do not eat, drink, or smoke while handling this product.

OTHER PRECAUTIONS: Keep out of reach of children. Avoid contact with eyes, skin and clothing. Wash thoroughly after using.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation recommended. Applicators should stand upwind when handling.

PERSONAL PROTECTION EQUIPMENT:

EYES AND FACE: Safety glasses with side shields, goggles, or face shield are required

RESPIRATORY: NIOSH/MSHA approved respiratory protection

GLOVES: PVC gloves recommended

PROTECTIVE CLOTHING: Long-sleeved shirt and long pants, shoes plus socks

WORK HYGENIC PRACTICES: Practice good care and good safety precautions when handling this product.

IX. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: Not Applicable

MELTING POINT: Not Applicable

VAPOR DENSITY (air = 1): Not Applicable

ODOR: Bland odor

APPEARANCE: Multi-colored granules

pH: Not Determined

SPECIFIC GRAVITY: Not Applicable

EVAPORATION RATE: Not Applicable

VAPOR PRESSURE: Not Applicable

SOLUBILITY IN WATER: Partially soluble

PERCENT VOLATILE: Not Applicable

BULK DENSITY (lbs./cu ft): 56 - 60

X. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Oxidizing agents; thermal, mechanical and electrical ignition sources

STABILITY: Stable

POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Strong acids, alkalis

HAZARDOUS DECOMPOSITION PRODUCTS: If heated to decomposition, may give off ammonia and formaldehyde as well as oxides of sulfur, manganese, magnesium, iron, potassium and phosphorus, nitrogen, carbon, and chlorine. Urea can yield cyanuric acid or biuret upon heating.

XI. TOXICOLOGICAL INFORMATION

EYE EFFECTS: (Rabbit): Mildly irritating (AI)

SKIN EFFECTS: (Rabbit): Non-irritating (AI)

DERMAL LC₅₀: (Rat): >2000 mg/kg body weight (AI)

ORAL LD₅₀: (Rat): >5000 mg/kg body weight (AI)

INHALATION LC₅₀: (Rat): >1.8 mg/l air - 4 hours (AI)

SENSITIZATION: (Guinea Pig): Sensitizing (AI)

ACUTE EFFECTS FROM OVEREXPOSURE: Eye irritation, possible skin sensitization

CHRONIC EFFECTS FROM OVEREXPOSURE: Prodiamine: (AI)

Reproductive Hazard Potential: Fetal toxicity at high dose levels (rats); developmental and maternal toxicity observed at 1 g/kg/day.

Chronic/Subchronic Toxicity Studies: Liver (alteration and enlargement) and thyroid effects (hormone imbalances) at high dose levels (rats); decreased body weight gains

CARCINOGENICITY: Prodiamine: (AI)

Potential: Benign thyroid tumors (rat). None observed (mouse)

IARC: Sodium Sulfite, Group 3

NTP: Not Listed

OSHA: Not Listed

OTHER: Not Listed

XII. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No data available for the formulation. The information presented here is for the active ingredient, Prodiamine: (AI)

Stable in sterile water, in the dark at pH 5,7 and 9, but degrades rapidly in the light, in both water (t1/2 = 0.33 hr @ pH 5.5) and soil (t1/2 - 50 hr). Degradation in soil, in the dark is variable under aerobic conditions (t1/2 ~ 57 - 218 d), more rapid under anaerobic conditions (t1/2 ~ 30 d). Immobile in various soils (Koc >9000). Bioaccumulation is high (BCF = 1300X, whole fish).

ECOTOXICOLOGICAL INFORMATION: No data

XIII. DISPOSAL CONSIDERATIONS



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DISPOSAL METHODS:

Product: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container: Completely empty container into application equipment. Then dispose of empty container in a sanitary landfill, or at an incineration facility, or, if allowed by state and local authorities, by burning locally. If burned, stay out of smoke.

XIV. TRANSPORTATION INFORMATION:

DOT Transportation: Not Regulated

Proper Shipping Name: Not Applicable

Hazard Class: Not Applicable

U.S. Surface Freight Class: Herbicides, NOI

Reportable Quantity (RQ): Not Applicable

ID NO.: Not Applicable

Marine Pollution #1: Not Applicable

HM 181 Shipping Name: Not Regulated

XV. REGULATORY INFORMATION – UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

Y Immediate (Acute Health)

N Delayed (Chronic Health)

N Fire

N Sudden Release of Pressure

N Reactivity

SEC 302: Not Applicable

SEC 304: Not Applicable

SEC 313: Not Applicable

CERCLA RQ: Iron Sulfate (7720-78-7) 1,000

CAA RQ: Not Applicable

EPA Registration No.: 10404-88 (0.20%); 10404-89 (0.43%); 10404-90 (0.68%); 10404-91 (2.0%); 60063-28-10404 (0.29%); 100-1338-10404 (0.28%); 100-1339-10404 (0.38%)

Preparation and distribution of this Material Safety Data Sheet is done for LESCO, Inc., pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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For further information, contact: LESCO, Inc. • 1301 East 9th Street, Suite 1300 • Cleveland, OH 44114-1849 or (800) 321-5325.


**MATERIAL SAFETY
DATA SHEET #4048-0**

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1385 East 36th Street, Cleveland, OH 44114-4114
EMERGENCY PHONE: LESCO: (800) 321-5325
CHEMTREC: (800) 424-9300

DATE ISSUED: 4/26/11
SUPERSEDES: NEW

I. PRODUCT IDENTIFICATION

PRODUCT NAME: LESCO Three-Way Selective Herbicide

Chemical Family: Mixture

Chemical Name/Synonyms: Mixture of 2,4-D, Mecoprop-p (MCP-p) and Dicamba

II. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	%(by/wt.)	CAS #	PEL/TLV
Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid	30.56	2008-39-1	10 mg/m ³ (based on adopted limit for 2,4-D)
Dimethylamine Salt of (+)-R-2-(2-Methyl-4-Chlorophenoxy) propionic acid	8.17	66423-09-4	NE
Dimethylamine Salt of Dicamba (3,6-Dichloro-o-anisic Acid)	2.77	2300-66-5	NE
Inert Ingredients	58.50	NA	NE

Substances not 'Hazardous' per OSHA Hazard Communication Standard (29 CFR 1910.1200) may be listed. Where proprietary ingredient shows, the identify may be made available as provided in this standard

III. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Primary Route(s) of Entry: Eyes, Skin, Inhalation, Ingestion

POTENTIAL HEALTH EFFECTS: Corrosive. Causes irreversible eye damage. Harmful if swallowed or inhaled.

EYE: Causes irreversible eye damage. Vapors and mist can cause irritation.

SKIN: Slightly toxic and slightly irritating based on toxicity studies. Overexposure by skin absorption may cause symptoms similar to those for ingestion.

INHALATION: Harmful if inhaled. Overexposure may cause upper respiratory tract irritation and symptoms similar to those from ingestion.

INGESTION: Harmful if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

MEDICAL CONDITIONS AGGRAVATED: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

POTENTIAL ENVIRONMENTAL HAZARDS: This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants.

IV. FIRST AID MEASURES

EYES: Hold eye open and rinse slowly and gently with water for 15 to 20 minute. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

V. FIRE FIGHTING MEASURES

Flash Point (Method Used): NA

Auto Ignition Temperature: ND

Lower Explosion Limits: ND

Upper Explosion Limits: NA

NFPA/HMIS Rating: Health: 3

Fire: 1

Reactivity: 0

EXTINGUISHING MEDIA:

Large Fires:

☒ X_Foam ☐ Alcohol Foam ☐ CO₂ ☐ Dry Chemical ☒ X_Water Spray
☐ Other

Small Fires:

☐ Foam ☐ Alcohol Foam ☒ X_CO₂ ☒ X_Dry Chemical ☐ Water Spray
☐ Other

UNUSUAL FIRE AND EXPLOSION HAZARDS: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

FIRE FIGHTING PROCEDURES: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

HAZARDOUS COMBUSTION PRODUCTS: (Under firer conditions): May produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

VI. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: If material is spilled, wear appropriate protective gear for the situation (see Section VIII for Personal Protection information)

Environmental Precautions: This product is toxic to fish and aquatic invertebrates and may adversely affect non-target plants. Do not contaminate water when disposing of equipment wash waters or rinsate. This product has properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination. Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D and MCPP-p have been associated with mixing/loading and disposal sites. Caution should be exercised when handling these herbicides at such sites to prevent contamination of groundwater supplies. Use of the closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Clean-Up and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup.

Large Spills: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

VII. HANDLING AND STORAGE

GENERAL PROCEDURES:

Handling: Avoid inhalation of spray mists. Do not get in eyes, or on skin or clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Storage: Always use original container to store pesticides in a secured warehouse or storage building. Store at temperatures above 32°F. If allowed to freeze, remix before using. This does not alter the product. Containers should be opened in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides. Do not contaminate water, food or feed by storage or disposal.

OTHER PRECAUTIONS: Keep out of reach of children.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

PERSONAL PROTECTION EQUIPMENT:

EYES AND FACE: Face shield, goggles or safety glass with front, brow and temple protection.

RESPIRATORY: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

GLOVES: Chemical-resistant gloves.

PROTECTIVE CLOTHING: Coveralls over short-sleeved shirt and short pants, chemical-resistant footwear, and socks. For overhead exposure, wear chemical-resistant headgear. Wear a chemical-resistant apron when cleaning equipment, mixing or loading.

WORK HYGIENIC PRACTICES: Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is store. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

COMMENTS: An emergency eyewash or water supply should be readily accessible to the work area.

IX. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: ND

FREEZING POINT: 32°F/0°C

VAPOR DENSITY (air = 1):

ODOR: Slight phenolic odor

APPEARANCE: Clear, dark amber colored liquid

pH: 7 - 8

SPECIFIC GRAVITY: 1.13 @ 20°C

EVAPORATION RATE: ND

VAPOR PRESSURE: ND

SOLUBILITY IN WATER: Soluble

PERCENT VOLATILE: NA

DENSITY (lbs./gallon): 9.4

X. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat. Do not store near heat or flame.

STABILITY: Stable

POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Strong oxidizing agents: based and acids

HAZARDOUS DECOMPOSITION PRODUCTS: Under fire conditions, may produce gases such as hydrogen chloride and oxides of nitrogen and carbon.

XI. TOXICOLOGICAL INFORMATION

Data from laboratory studies on this product are summarized below:

EYE EFFECTS: (Rabbit): Severely irritating/corrosive

SKIN EFFECTS: (Rabbit): Slightly irritating

DERMAL LD₅₀: (Rabbit): >2,000 mg/kg

ORAL LD₅₀: (Rat, female): 930 mg/kg; (Rat, male): >500 mg/kg

INHALATION LC₅₀: (Rat 4-hr): >3.57 mg/L

SENSITIZATION: (Guinea pig): Not a skin sensitizer

SUBCHRONIC (TARGET ORGAN) EFFECTS FROM OVEREXPOSURE: Repeated overexposure to phenoxy herbicides may cause effects to liver, kidneys, blood chemistry, and gross motor function. Rare cases of peripheral nerve damage have been reported, but extensive animal studies have failed to substantiate these observations, even at high doses in prolonged periods. Repeated overexposure to dicamba may cause liver changes or a decrease in body weight.

CARCINOGENICITY:

IARC: Chlorophenoxy Herbicides = Class 2B

NTP: Not Listed

OSHA: Not Listed

OTHER: Not Listed

XII. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: In laboratory and field studies, 2,4-D DMA salt rapidly dissociated to parent acid in the environment. The typical half-life of the resultant 2,4-D acid ranged from a few days to a few weeks. Mecoprop-p DMA rapidly dissociates to parent mecoprop-p in the environment. In soil, mecoprop-p is microbially degraded with a typical half-life of approximately 11 to 15 days. Dicamba poorly binds to soil particles, is potentially mobile in the soil and highly soluble in water. Aerobic soil metabolism is the main degradative process for dicamba with a typical half-life of 2 weeks. Degradation is slower when low soil moisture limits microbe populations. In water, microbial degradation is the main route of dicamba dissipation. Aquatic hydrolysis, volatilization, absorption to sediments, and bioconcentration are not expected to be significant.

ECOTOXICOLOGICAL INFORMATION:

Data on 2,4-D Dimethylamine Salt:

96-hour LC ₅₀ Bluegill:	524 mg/l	Bobwhite Quail Oral	500 mg/kg
96-hour LC ₅₀ Rainbow Trout:	250 mg/l	Mallard Duck 8-day Dietary LC ₅₀ :	>5,620 ppm
48-hour EC ₅₀ Daphnia:	184 mg/l		

Data on Mecoprop-p:

96-hour LC ₅₀ Bluegill:	>100 mg/l (literature)
48-hour EC ₅₀ Daphnia:	>270 mg/l (literature)
72-hour EC ₅₀ Green Algae:	>270 mg/l (literature)

Data on Dicamba:

96-hour LC ₅₀ Bluegill:	135 mg/l	Bobwhite Quail 8-day Dietary LC ₅₀ :	>10,000 ppm
96-hour LC ₅₀ Rainbow Trout:	135 mg/l	Mallard Duck 8-day Dietary LC ₅₀ :	>10,000 ppm
48-hour EC ₅₀ Daphnia:	110 mg/l		

XIII. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:

Product: Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Nonrefillable container. Do not reuse or refill containers. Triple rinse container (or equivalent) promptly after emptying.

Nonrefillable container ≤ 5 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable container > 5 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

XIV. TRANSPORTATION INFORMATION:

DOT Transportation:

≤ 41 gallons per completed package: Not Regulated
 ≥ 41 gallons per completed package:
 UN 3082, environmentally hazardous substances, liquid, n.o.s.
 (2,4-D Salt), 9, III, RQ

Marine Pollutant #1:

NA

XV. REGULATORY INFORMATION – UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):**SEC 311/312:****Y Immediate (Acute Health)****Y Delayed (Chronic Health)****N Fire****N Sudden Release of Pressure****N Reactivity****SEC 302 (Extremely Hazardous Substance): NA****SEC 304 (Emergency Release Notification): NA****SEC 313 (Toxic Chemicals):**

Acetic Acid, (2,4-Dichlorophenoxy)- (CAS #94-75-7), 25.38% equivalent by weight in product

Dicamba (CAS #1918-00-9), 2.30% equivalent by weight in product

CERCLA RQ:

Acetic Acid, (2,4-Dichlorophenoxy)- (CAS #94-75-7) 100 pounds

Dicamba (CAS #1918-00-9) 1,000 pounds

CAA RQ: NA**RCRA Waste Code:**

Acetic Acid, (2,4-Dichlorophenoxy)- (CAS #94-75-7) U240

EPA Registration No.: 10404-43

NOTE: NA=Not Applicable; ND=Not Determined; NE=Not Established

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